DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

J

SYSTEM
OR SERIES

UPPER CRETACEOUS

J 85
ROBERTS 1 MOBIL RISSLER
SW NE SEC. 8, T. 43 N., R. 81 W.,
JOHNSON COUNTY, WYOMING
KB 4700'

J 86
SHELL 22X-23 GOVT.
SE NW SEC. 23, T. 44 N., R. 80 W.,
JOHNSON COUNTY, WYOMING
KB 4773'

J 87
SHELL 13X-11B MONTGOMERY
NW SW SEC. 11, T. 44 N., R. 79 W.,
JOHNSON COUNTY, WYOMING
KB 4536'

J 88
PUBLISHERS 1-14 FED.
NW SE SEC. 14, T. 47 N., R. 78 W.,
JOHNSON COUNTY, WYOMING
KB 4332'

J 89
PURE 1 UNIT
NE NW SEC. 20, T. 48 N.,R. 76 W.,
JOHNSON COUNTY, WYOMING
KB 4531'

J 90
NAT. COOP. REF. 1 FED.-BARLOW
SE SE SEC. 31, T. 49 N., R. 74 W.,
CAMPBELL COUNTY, WYOMING
KB 4890'

J 91
ANSCHUTZ 1 ANADARKO FED.
NE SE SEC. 19, T. 49 N., R. 72 W.,
CAMPBELL COUNTY, WYOMING
KB 4820'

TEAPOT SANDSTONE MEMBER
PARKMAN SANDSTONE MEMBER
BASE OF ARDMORE BENTONITE BED
SHANNON SANDSTONE MEMBER
STEELE SHALE
NIOBRARA FORMATION
SAGE BREAKS SHALE
FRONTIER FORMATION
BASE OF CLAY SPUR BENTONITE BED
MOWRY SHALE
LEWIS SHALE
MESAVERDE FORMATION
SUSSEX SANDSTONE MEMBER
TECKLA SANDSTONE MEMBER
LANCE FORMATION AND FOX HILLS SANDSTONE, UNDIVIDED
SUSSEX SANDSTONE MEMBER EQUIVALENT
PIERRE SHALE

J'

ONTGOMERY
. 44 N., R. 79 W.,
Y, WYOMING

J 88
PUBLISHERS 1-14 FED.
NW SE SEC. 14, T. 47 N., R. 78 W.,
JOHNSON COUNTY, WYOMING
KB 4332'

J 89
PURE 1 UNIT
NE NW SEC. 20, T. 48 N.,R. 76 W.,
JOHNSON COUNTY, WYOMING
KB 4531'

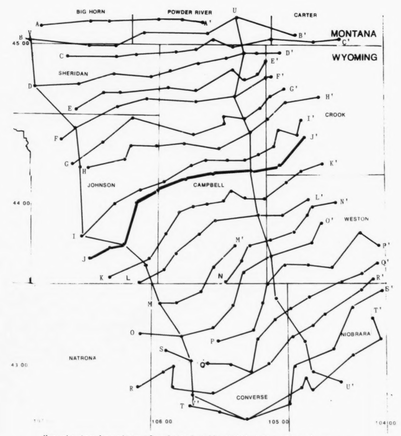
J 90
NAT. COOP. REF. 1 FED.-BARLOW
SE SE SEC. 31, T. 49 N., R. 74 W.,
CAMPBELL COUNTY, WYOMING
KB 4890'

J 91
ANSCHUTZ 1 ANADARKO FED.
NE SE SEC. 19, T. 49 N., R. 72 W.,
CAMPBELL COUNTY, WYOMING
KB 4820'

J 92
NAT. COOP. REF. 1 GOVT.
NW SE SEC. 15, T. 49 N., R. 70 W.,
CAMPBELL COUNTY, WYOMING
KB 4648'

J 93
ARCOL 1 LESTER
SW NW SEC. 35, T. 50 N., R. 68 W.,
CROOK COUNTY, WYOMING
KB 4177'

LANCE FORMATION AND FOX HILLS SANDSTONE, UNDIVIDED
LEWIS SHALE
TECKLA SANDSTONE MEMBER
MESAVERDE FORMATION
TEAPOT SANDSTONE MEMBER
PARKMAN SANDSTONE MEMBER
SUSSEX SANDSTONE MEMBER
BASE OF ARDMORE BENTONITE BED
SUSSEX SANDSTONE MEMBER
SHANNON SANDSTONE MEMBER
SUSSEX SANDSTONE MEMBER EQUIVALENT
PIERRE SHALE
STEELE SHALE
RED BIRD SILTY MEMBER
MITTEN MEMBER
BASE OF ARDMORE BENTONITE BED
GAMMON FERRUGINOUS MEMBER
NIOBRARA FORMATION
SAGE BREAKS MEMBER
CARLILE SHALE
TURNER SANDY MEMBER
HULE CREEK SHALE MEMBER
GREENHORN LIMESTONE
BELLE FOURCHE SHALE
BASE OF CLAY SPUR BENTONITE BED
MOWRY SHALE



Map showing locations of selected wells drilled for oil and gas in the Powder River basin.

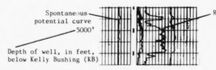
EXPLANATION

Correlation line at Group, Formation, Member, or bentonite boundaries --- Queried where correlation is uncertain.

Correlation along an unconformity --- Queried where correlation is uncertain.

* Widely used subsurface terminology.

Datum is top of Lower Cretaceous Mowry Shale.



Vertical scale 1 inch = 200 feet

This illustration is preliminary and has not been edited or reviewed for conformity with Geological Survey standards.

This cross section was prepared in part for the Evolution of Sedimentary Basins Program.

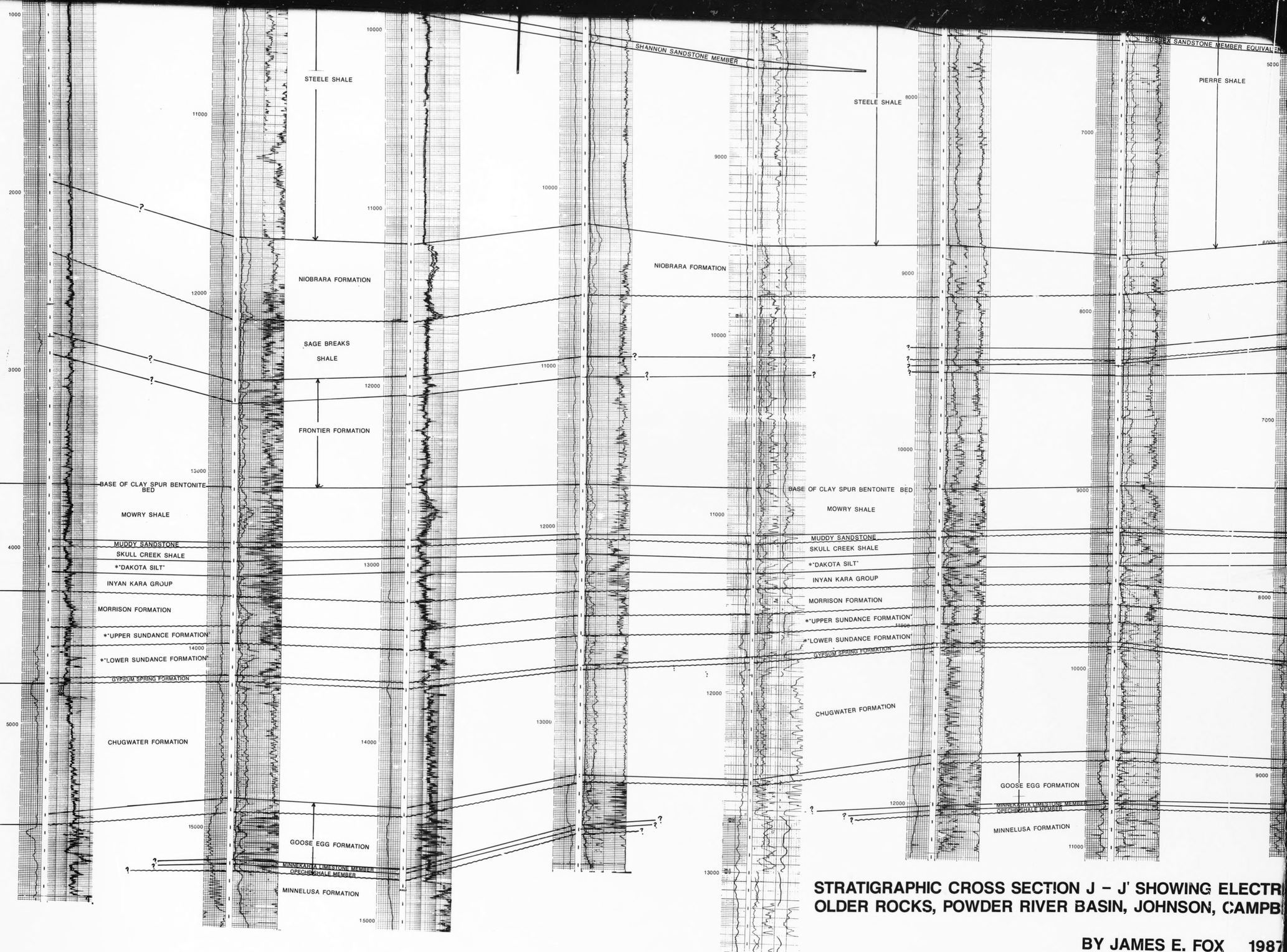
UPPER CRETACEOUS

LOWER CRETACEOUS

JURASSIC

TRIASSIC

PERMIAN

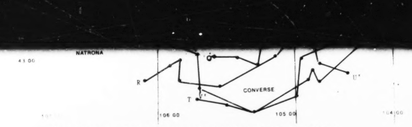


STRATIGRAPHIC CROSS SECTION J – J' SHOWING ELECTR
OLDER ROCKS, POWDER RIVER BASIN, JOHNSON, CAMPB

BY JAMES E. FOX 1987

BASE OF ARDMORE BENTONITE BED
SUSSEX SANDSTONE MEMBER
SHANNON SANDSTONE MEMBER
STEELE SHALE
NIOBRARA FORMATION
BASE OF CLAY SPUR BENTONITE BED
MOWRY SHALE
MUDDY SANDSTONE
SKULL CREEK SHALE
*"DAKOTA SILT"
INYAN KARA GROUP
MORRISON FORMATION
*"UPPER SUNDANCE FORMATION"
*"LOWER SUNDANCE FORMATION"
GYPSUM SPRING FORMATION
CHUGWATER FORMATION
GOOSE EGG FORMATION
MINNEKAHTA LIMESTONE MEMBER
OPECHE SHALE MEMBER
MINNELUSA FORMATION
SUSSEX SANDSTONE MEMBER EQUIVALENT
PIERRE SHALE
MITTEN MEMBER
? BASE OF ARDMORE BENTONITE BED
GAMMON FERRUGINOUS MEMBER
NIOBRARA FORMATION
SAGE BREAKS MEMBER
CARLILE SHALE
TURNER SANDY MEMBER
SPOOL CREEK SHALE MEMBER
GREENHORN LIMESTONE
BELLE FOURCHE SHALE
BASE OF CLAY SPUR BENTONITE BED
MOWRY SHALE
MUDDY SANDSTONE
SKULL CREEK SHALE
*"DAKOTA SILT"
INYAN KARA GROUP
MORRISON FORMATION
*"UPPER SUNDANCE FORMATION"
*"LOWER SUNDANCE FORMATION"
GYPSUM SPRING FORMATION
CHUGWATER FORMATION
GOOSE EGG FORMATION
MINNEKAHTA LIMESTONE MEMBER
OPECHE SHALE MEMBER
MINNELUSA FORMATION

J 94
MULE CREEK 1-4433 GRIFFITH
SE SE SEC. 33, T. 52 N., R. 66 W.,
CROOK COUNTY, WYOMING
KB 4436'



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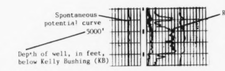
Spontaneous potential curve
5000'
Depth of well, in feet, below Kelly Bushing (KB)
Resistivity curves
Vertical scale 1 inch = 200 feet

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This cross section was prepared in part for the Evolution of Sedimentary Basins Program.

STRATIGRAPHIC CROSS SECTION J – J' SHOWING ELECTRIC LOGS OF UPPER CRETACEOUS AND OLDER ROCKS, POWDER RIVER BASIN, JOHNSON, CAMPBELL AND CROOK COUNTIES, WYOMING

BY JAMES E. FOX 1987

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1 plate